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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,240	09/11/2003	Tatsufumi Kusuda	P/1250-260	6824

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EXAMINER	
FUQUA, SHAWNTINA T	
ART UNIT	**PAPER NUMBER**
3742	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/661,240	KUSUDA ET AL.	
	Examiner	Art Unit	
	Shawntina T. Fuqua	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5-8,11-13 and 17-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5-8,11-13 and 17-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. During a telephone call on 2/10/05, the attorney of record Mr. Moscowitz informed the examiner of an oversight involving a supplemental amendment dated 8/12/04 wherein it appeared that the examiner was not aware of the supplemental amendment prior to making the final rejection dated 11/16/04. Upon review, the examiner agreed with Mr. Moscowitz. As a result, ***the examiner is withdrawing the final rejection dated 11/16/04***. A new action on the merits follows below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al in view of Moto et al (6167194) and Ballance et al (US6395363).

Chen et al discloses a thermal processing susceptor comprising a flat receiving surface allowing the substrate to lie flat on the surface (column 3, lines 31-32), a tapered surface (34) annularly enclosing the peripheral edge of receiving surface (column 3, lines 34-36, Figure 5), and the lower end of the tapered surface is attached to the peripheral edge and tapered surface is formed upwardly (Figure 5, column 3, lines 37-56). Chen et al does not disclose a tapered surface with a gradient between 5-30 degrees, a second tapered surface annularly enclosing the

first tapered surface wherein the second gradient is larger than the first and between 45-90 degrees, and a tapered surface with a surface roughness not more than 1.6 microns. Moto et al discloses a tapered surface with a gradient between 5-30 degrees (13a, column 6, lines 30-35), and a second tapered surface (14) annularly enclosing the first tapered surface wherein the second gradient is larger than the first and between 45-90 degrees (Figures 3, 5, 6). Ballance et al discloses a tapered surface (135) with a surface roughness not more than 1.6 microns (column 5, lines 50-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the first and second tapered surfaces, gradient requirements, chamber and lamps of Moto et al along with the surface roughness of Ballance et al in the thermal processor of Chen et al because, first and second tapered surfaces with gradients between 5-30 degrees and 45-90 degrees allows the temperature distribution of the substrate to be more uniform, and a tapered surface with a surface roughness not more than 1.6 microns reduces the tendency of scratching the substrate.

4. Claims 5, and 12-13,are rejected under 35 U.S.C. 103(a) as being unpatentable over Moto et al in view of Chen et al and further in view of Arai et al (US4571486).

Moto et al discloses a susceptor for holding a substrate comprising a flat receiving surface (13), a tapered peripheral edge (13a) wherein the lower edge of the tapered surface is attached to the peripheral edge of the receiving surface (Figures 3, 5, 6) and the tapered surface is formed upwardly with a gradient between 5-30 degrees (column 6, lines 30-35), a plurality of lamps (101), a chamber (100), and a second tapered surface (14) annularly enclosing the peripheral edge of the first tapered surface wherein the second gradient is larger than the first gradient (Figures 3, 5, 6). Moto et al does not disclose a susceptor with a tapered peripheral edge

and a flat receiving surface larger than the substrate allowing the substrate to lie flat on the receiving surface, a plurality of flash lamps, and an assistive heater in the holder for preheating the substrate. Chen et al discloses a susceptor with a tapered peripheral edge and a flat receiving surface larger than the substrate allowing the substrate to lie flat on the receiving surface and Arai et al discloses flash lamps (3) and an assistive heater in the holder for preheating the substrate (column 3, lines 33-38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the susceptor with the flat receiving surface larger than the substrate of Chen et al and to have replaced the halogen lamps of Moto et al with the flash lamps of Arai et al and to have included the assistive heater of Arai et al in the holder of Moto et al because, a flat receiving surface larger than the substrate allows the substrate to be held more securely, flash lamps and an assistive heater allow the substrate to be heated more uniformly.

5. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moto et al in view of Chen et al and Arai et al as applied to claims 5, 12-13 above in paragraph 4, and further in view of Ballance et al.

Moto et al in view of Chen et al and Arai et al discloses all of the recited subject matter except a tapered surface with a surface roughness not more than 1.6 microns. Ballance et al discloses a tapered surface with a surface roughness not more than 1.6 microns (column 5, lines 50-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the surface roughness of Ballance et al along with receiving surface of Chen et al and the flash lamps and assist heating of Arai in the thermal processor of Moto et al

because, a tapered surface with a surface roughness not more than 1.6 microns reduces the tendency of scratching the substrate.

6. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moto et al in view of Chen et al and Arai et al as applied to claims 5, and 12-13 above in paragraph 4, and further in view of Lee et al (US6519417).

Moto et al in view of Chen et l and Arai et al discloses all of the recited subject matter except a tapered surface which allows the substrate to slide up along the tapered surface as the substrate expands without restricting expansion of the substrate. Lee et al discloses a tapered surface which allows the substrate to slide up along the tapered surface as the substrate expands without restricting expansion of the substrate (30; column 4, lines 7-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the tapered surface of Lee et al in the apparatus of Moto et al along with the receiving surface of Chen et al and the flash lamps of Arai et al because, the tapered as disclosed in Lee et al acts as a wafer guide.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 3, 5-8, 11-13, and 17-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawntina T. Fuqua whose telephone number is (571) 272-4779. The examiner can normally be reached on Monday-Friday 8-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

stf
March 24, 2005

Shawntina Fuqua
Patent Examiner
Art Unit 3742